

Penrith Wastewater Treatment Plant

February Pollution Monitoring Summary



EPL 1409

Summary period: 01-02-2020 to 29-02-2020

Date obtained: 18-03-2020

Date published: 27-03-2020

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	2	yes
total suspended solids	mg/L	monthly	30	<2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	239
arsenic	ug/L	monthly	1	-	-	1.6
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	3
cobalt	ug/L	monthly	1	-	-	1.3
copper	ug/L	monthly	1	-	-	5.6
faecal coliforms	CFU/100mL	every 6 days	5	<1	27	110
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	151
nickel	ug/L	monthly	1	-	-	3.4
nitrogen (ammonia)	mg/L	every 6 days	4	0.02	0.3	1.11
nitrogen (total)	mg/L	every 6 days	5	3.98	6.17	7.83
phosphorus (total)	mg/L	every 6 days	5	0.05	0.24	0.65
total suspended solids	mg/L	every 6 days	5	<2	<2	6
zinc	ug/L	monthly	1	-	-	31

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	50

Average and percentile limits are only applied annually for routine monitoring data in Table 2

Penrith Wastewater Treatment Plant

January Pollution Monitoring Summary



EPL 1409

Summary period: 01-01-2020 to 31-01-2020

Date obtained: 06-02-2020

Date published: 14-02-2020

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	<2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	212
arsenic	ug/L	monthly	1	-	-	0.3
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cobalt	ug/L	monthly	1	-	-	1
copper	ug/L	monthly	1	-	-	4.5
faecal coliforms	CFU/100mL	every 6 days	5	1	52	110
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	137
nickel	ug/L	monthly	1	-	-	2.8
nitrogen (ammonia)	mg/L	every 6 days	5	0.01	0.19	0.71
nitrogen (total)	mg/L	every 6 days	5	5.23	6.09	6.54
phosphorus (total)	mg/L	every 6 days	5	0.05	0.07	0.08
total suspended solids	mg/L	every 6 days	5	<2	<2	<2
zinc	ug/L	monthly	1	-	-	25

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2

Penrith Wastewater Treatment Plant

December Pollution Monitoring Summary



EPL 1409

Summary period: 01-12-2019 to 31-12-2019

Date obtained: 07-01-2020

Date published: 10-01-2020

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	<2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	229
arsenic	ug/L	monthly	1	-	-	0.3
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cobalt	ug/L	monthly	1	-	-	1.2
copper	ug/L	monthly	1	-	-	3.5
faecal coliforms	CFU/100mL	every 6 days	6	2	15	39
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	105
nickel	ug/L	monthly	1	-	-	2.4
nitrogen (ammonia)	mg/L	every 6 days	5	0.01	0.02	0.02
nitrogen (total)	mg/L	every 6 days	5	4.27	4.43	4.7
phosphorus (total)	mg/L	every 6 days	5	0.05	0.06	0.06
total suspended solids	mg/L	every 6 days	5	<2	<2	<2
zinc	ug/L	monthly	1	-	-	21

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	6	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2

Penrith Wastewater Treatment Plant

November Pollution Monitoring Summary



EPL 1409

Summary period: 01-11-2019 to 30-11-2019

Date obtained: 06-12-2019

Date published: 12-12-2019

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	<2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	235
arsenic	ug/L	monthly	1	-	-	0.3
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cobalt	ug/L	monthly	1	-	-	1.4
copper	ug/L	monthly	1	-	-	3.1
faecal coliforms	CFU/100mL	every 6 days	5	<1	14	52
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	118
nickel	ug/L	monthly	1	-	-	2.4
nitrogen (ammonia)	mg/L	every 6 days	5	0.01	0.02	0.03
nitrogen (total)	mg/L	every 6 days	5	3.12	3.83	4.83
phosphorus (total)	mg/L	every 6 days	5	0.06	0.06	0.07
total suspended solids	mg/L	every 6 days	5	<2	<2	<2
zinc	ug/L	monthly	1	-	-	21

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2

Penrith Wastewater Treatment Plant

October Pollution Monitoring Summary



EPL 1409

Summary period: 01-10-2019 to 31-10-2019

Date obtained: 12-11-2019

Date published: 22-11-2019

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	238
arsenic	ug/L	monthly	1	-	-	0.2
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	6	<2	<2	<2
cobalt	ug/L	monthly	1	-	-	1.4
copper	ug/L	monthly	1	-	-	2.7
faecal coliforms	CFU/100mL	every 6 days	5	<1	14	30
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	130
nickel	ug/L	monthly	1	-	-	2.3
nitrogen (ammonia)	mg/L	every 6 days	6	0.01	0.02	0.03
nitrogen (total)	mg/L	every 6 days	6	4.38	4.74	5.27
phosphorus (total)	mg/L	every 6 days	6	0.06	0.08	0.1
total suspended solids	mg/L	every 6 days	6	<2	<2	2
zinc	ug/L	monthly	1	-	-	20

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2

Penrith Wastewater Treatment Plant

September Pollution Monitoring Summary



EPL 1409

Summary period: 01-09-2019 to 30-09-2019

Date obtained: 02-10-2019

Date published: 08-10-2019

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	389
arsenic	ug/L	monthly	1	-	-	0.4
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cobalt	ug/L	monthly	1	-	-	0.9
copper	ug/L	monthly	1	-	-	3.5
faecal coliforms	CFU/100mL	every 6 days	5	<1	8	17
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	79
nickel	ug/L	monthly	1	-	-	1.6
nitrogen (ammonia)	mg/L	every 6 days	5	0.02	0.2	0.49
nitrogen (total)	mg/L	every 6 days	5	3.59	4.79	5.84
phosphorus (total)	mg/L	every 6 days	5	0.07	0.08	0.09
total suspended solids	mg/L	every 6 days	5	<2	<2	3
zinc	ug/L	monthly	1	-	-	34

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	0.17	0.85

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2

Penrith Wastewater Treatment Plant

August Pollution Monitoring Summary



EPL 1409

Summary period: 01-08-2019 to 31-08-2019

Date obtained: 04-09-2019

Date published: 16-09-2019

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	3	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	497
arsenic	ug/L	monthly	1	-	-	0.3
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cobalt	ug/L	monthly	1	-	-	1.4
copper	ug/L	monthly	1	-	-	2.5
faecal coliforms	CFU/100mL	every 6 days	5	<1	10	20
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	156
nickel	ug/L	monthly	1	-	-	2.1
nitrogen (ammonia)	mg/L	every 6 days	5	0.01	0.31	1.44
nitrogen (total)	mg/L	every 6 days	5	4.16	4.52	5
phosphorus (total)	mg/L	every 6 days	5	0.08	0.09	0.13
total suspended solids	mg/L	every 6 days	5	<2	2	3
zinc	ug/L	monthly	1	-	-	20

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	<0.04	<0.04

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2

Penrith Wastewater Treatment Plant

July Pollution Monitoring Summary



EPL 1409

Summary period: 01-07-2019 to 31-07-2019

Date obtained: 07-08-2019

Date published: 17-08-2019

Licensee: Sydney Water Corporation

PO Box 399

PARRAMATTA NSW 2124

Table 1: 3 Day Geometric Mean data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank			
pollutant	unit of measure	sampling frequency	3DGM limit	3DGM Actual	within limits
carbonaceous biochemical oxygen demand	mg/L	monthly	30	<2	yes
total suspended solids	mg/L	monthly	30	<2	yes

3 Day Geometric Mean (3DGM) is a way to average a set of values and is commonly used with water quality assessments which show a great deal of variability. 3DGM is calculated by multiplying the results of the analysis of three samples collected on three consecutive days and then taking the cubed root of that amount.

Table 2: Routine monitoring data

EPA Point 5 Site code PR0005		Point description: At the outlet of the chlorine contact tank				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
aluminium	ug/L	monthly	1	-	-	293
arsenic	ug/L	monthly	1	-	-	0.3
cadmium	ug/L	monthly	1	-	-	<0.1
carbonaceous biochemical oxygen demand	mg/L	every 6 days	5	<2	<2	<2
cobalt	ug/L	monthly	1	-	-	1.5
copper	ug/L	monthly	1	-	-	3.6
faecal coliforms	CFU/100mL	every 6 days	5	<1	<1	1
hydrogen sulphide (unionised)	ug/L	monthly	1	-	-	<30
iron	ug/L	monthly	1	-	-	203
nickel	ug/L	monthly	1	-	-	2.5
nitrogen (ammonia)	mg/L	every 6 days	5	<0.01	0.04	0.19
nitrogen (total)	mg/L	every 6 days	5	3.59	4.55	5.32
phosphorus (total)	mg/L	every 6 days	5	0.06	0.11	0.2
total suspended solids	mg/L	every 6 days	5	<2	<2	3
zinc	ug/L	monthly	1	-	-	26

EPA Point 21 Site code PR0021		Point description: Downstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
chlorine (total residual)	mg/L	every 6 days	5	<0.04	0.08	0.4

EPA Point 22 Site code PR0022		Point description: Upstream of the St Marys Advanced Water Treatment Plant return stream				
pollutant	unit of measure	sampling frequency	number of samples	minimum result	mean result	maximum result
Ceriodaphnia dubia immobilisation (EC50)	% Effluent/Vol	monthly	1	-	-	100

Average and percentile limits are only applied annually for routine monitoring data in Table 2